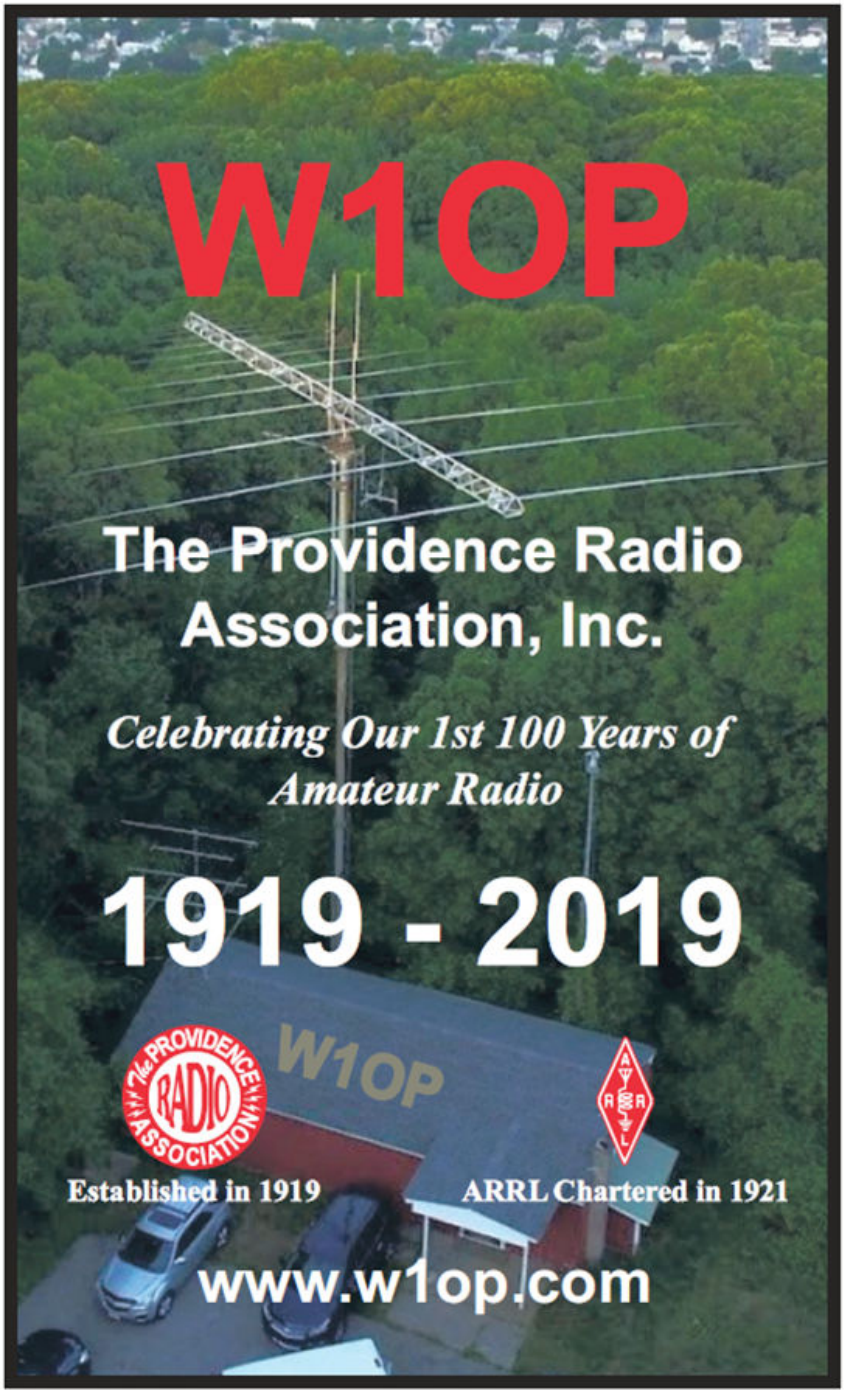
Northeast HamXposition @Boxboro! 2019

September 6, 7, & 8

Our 36th Convention

ARRL New England Division Convention

Boxboro Regency Hotel & Conference Center
Boxborough, Massachusetts


W1OP
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1919 - 2019
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Established in 1919
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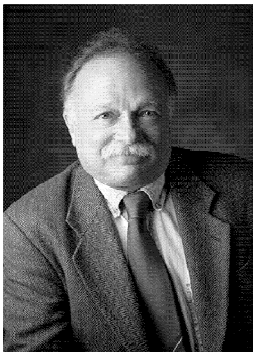
www.w1op.com

Welcome to Northeast HamXposition 2019



How do we grow our Ham Radio convention? How do we grow Ham Radio? Getting good answers to these questions is what your Convention Committee is all about. Let me tell you about some of the things we've has been doing.

Last year we introduced a major new display in our exhibit hall. Thanks to the Nashua Amateur Radio Society, the show featured a wealth of displays covering the many aspects of our hobby in a way that old hams, new hams, and non-hams could all enjoy. The effort won kudos from everyone, including the ARRL.

Our efforts paid off with a significant increase in attendance. This year we are expanding the effort. We're also adding a Ham Radio Bootcamp geared especially to new or inactive hams. We hope this will help encourage them to get active. Data shows that the attrition rate for new hams is high, and anecdotal evidence suggests that part of this is due to a lack of support that new hams face as they try to enter the hobby. Part of our job, and yours, is to help the newcomers.

Another change is in the branding. For years, the ARRL New England Division Convention has been held in Boxborough, MA. We've been here so long that the event itself has become known simply as "Boxboro." And we don't plan to leave any time soon.

But we do want to emphasize to all that the Convention is regional in scope, officially covering the New England Division, but also drawing lots of people from the Hudson Division, from Eastern Canada, and from farther afield. And so, the Northeast HamXposition is born!

So, now you know some of the things the Committee is doing. What can you do to help? First and foremost, let your friends know about HamXposition, especially your non ham friends who might "catch the bug." There should be plenty to keep them entertained.

Second, find a new or struggling ham who could use a bit of help. Our hobby has always counted on the Old Timers to teach the Newbies.

And above all, enjoy HamXposition 2019. And when the weekend is over, start thinking about HamXposition 2020.

73, Mike, K1TWF, President

The New England FEMARA Scholarships

***This is why we hold the convention*.**

Your donations and all proceeds from the convention go to the FEMARA scholarship fund, which helps students attend a college or trade school of their choice. The ARRL Foundation administers the perpetual fund. Each year the foundation scholarship committee meets to carefully review hundreds of applications received from remarkably talented young men and women. The foundation receives cash and stock donations from hams and their families worldwide which include bequests from living wills and trusts. Please consider helping this great undertaking. When you donate to the foundation, please specify the FEMARA New England Fund!

The wonderful hams listed below are recent recipients of the FEMARA scholarships. If you know a worthy student, or are one yourself, you can apply online at http://www.arrl.org/scholarship-application.

2019 Winners ($2000 each)

Yettive S. Crestohl, K1YTV, Marblehead, MA
Brent Field, KB1VNC, Lancaster, NH
Theodore Parker, N1HW, Ripley, ME
Bahnou Upton, KB1OIS, Mont Vernon, NH

2018 Winners ($2000 each)

George E. Falardeau III, KC1ANB
Shefali Janorkar, KD2FIW
Julie Knappik, KB1YTT
Daniel B. Ruskin, KB1ZCL

2017 Winners ($2000 each)

Yettive S. Crestohl, K1YTV
Theodore Parker, N1HW
Ulysses C. Parker, KU1K
Daniel Ruskin, KB1ZCL

See the full list at: < http://hamxposition.org/scholarships >

HamXposition 2019 ~ Schedule

Friday, September 6

Forums: ***10 am — 5 pm***

DX/Contest Dinner: ***Cocktails 6, Dinner 7 — 10 pm***

Adrian Ciuperca, KO8SCA:

V84SAA- An International DXpedition to the Sultanate of Brunei

Door Prizes!

Saturday, September 7

Flea Market and Exhibit Hall: ***9 am — 5 pm***

Forums: ***9 am — 5 pm***

Convention Banquet: ***Cocktails 6, Dinner 7 — 10 pm***

Dan Barstow, KA1ARD

Dan is Senior Education Manager for the International Space Station National Lab.

Door Prizes!

Sunday, September 8

Flea Market and Exhibit Hall: ***9 am — 1 pm***

Forums: ***9 am — 1 pm***

Grand Prize Drawing: ***1 pm***

W1N Special Event Station

Friday: ***9 pm — midnight***

Saturday: ***8 am — 6 pm & 9 pm — midnight***

Sunday: ***8 am — 11 am***

DXCC Card Checking

Available in the Exhibit hall

NESMC

New England Spectrum Management Council

is a proud sponsor of the
Northeast HamXposition 2019

WE INVITE YOU TO ATTEND OUR ANNUAL MEETING

SATURDAY SEPTEMBER 7th
3:00PM
in the Cotillion Room

NESMC provides frequency coordination for amateur repeaters in New Hampshire, Maine, Massachusetts and Rhode Island.

Our Meeting is Open to All
You do not need to be a member to attend our meeting.

www.nesmc.org

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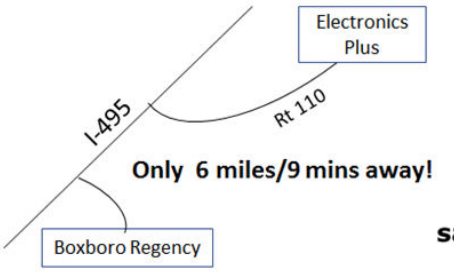

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Friday, September 6			
Room	**Federal**	**Colonial**	**Seminar**
10:00 - 10:50		**High Speed Outdoor Communications: NEFR and Climb to the Clouds**	**Importance of SKYWARN Reporting and how it supported the Cape Cod Tornado Assessment**
11:00 - 11:50		**Traffic Handling Practices for Emergency**	**Fundamentals of NVIS in EMCOMM**
12:00 - 12:50			**GoKits**
13:00 - 13:50		**Emergency Communications in a Major Disaster: Puerto Rico and Others**	**NBEMS & Winlink**
14:00 - 17:00		**SKYWARN Training**	
17:00 - 17:30			
18:30	**Cocktails**		
19:00 - 22:00	**DX Dinner**		

FEMARA thanks the following individuals and organizations for their support:

Donations of Prizes and Services:

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KB1OIQ	*Andy Stewart*	*W1HS*	*Steve Goldsmith*
KC1KMM	*Paul Blais*	*W2APF*	*Thaire Bryant*

Our apologies if we missed listing your name / organization.

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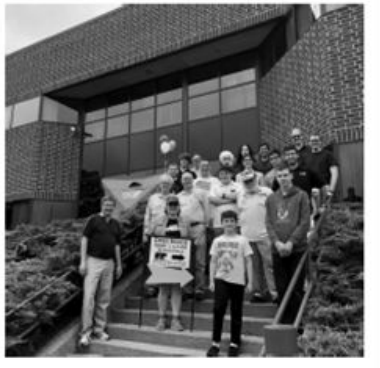
Saturday, September 7							
Room	Federal	Colonial	Seminar	Cotillion	Directors	Board	Deck
9:00 9:50	Ham Bootcamp	Yeasu System Fusion II & Updates	New England Section Emergency Coordinator Forum	Grounding: Magic or Exact Science?	Tech-in-a-Day™ Course	Intro to Fox Hunting	
10:00 10:50		FlexRadio: SDR Technology that will change how you operate HF Forever		The Critical Link: RF Connectors		RF Fingerprinting	VE Session I
11:00 11:50		Elecraft: The making of the K4	An Introduction to Traffic Handling & Being a Net Control Station	Youth Forum		National Company	
12:00 12:50	The Longest DX: Whispers from the Beginning of Time	Estate Planning for Amateur Radio Operators	National Traffic System Seminar	Cybersecurity for Ham Radio Operators		Heathkit: History and Restoration	
13:00 13:50	AMSAT Status Report	ARRL Forum	NE QRP Forum (cont'd) ↓↓↓↓	A Recent Local School ISS Crew Contact		Centennial of RCA — 1919, the Beginning	VE Session II (cont'd) ↓↓↓↓

NEW ENGLAND SCI-TECH



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Courses, workshops, maker space, public telescope nights, rocketry.

Conveniently located at 16 Tech Circle, Natick, near rt. 9, 30, and 27.

www.NESciTech.org – www.STARS.radio

Saturday, September 7							
Room	Federal	Colonial	Seminar	Cotillion	Directors	Board	Deck
14:00 14:50	Apollo Communications—Technical Details and the Engineering Experience	YCCC Meeting	New England QRP Forum	The Journey to 2019 Club of the Year	(cont'd) ↓↓↓↓	Introduction to Antenna Modeling	cont'd) ↓↓↓↓
15:00 15:50	A low power 144 MHz Earth-Moon-Earth Amateur Radio Station			NESMC Annual Meeting	Tech-in-a-Day™ Course	YL Meet and Learn	VE Session II
16:00 16:50	Weather, Kites, and Amateur Radio		AM on Steroids	ENIGMA and Spy Radios			
17:00							
18:00	Cocktails						
19:00	Convention Banquet		NE QRP Meet & Greet, Vendors Night & Build-A-Thon			***At the Gazebo***	
20:00							
21:00							
21:30		Movie Night *Alien Planet*		Music Jam Session		Open Mic Storytelling	
23:00							

NEW ENGLAND SCI-TECH

Upcoming Ham Radio License Classes!

Scan me with your smart phone. Reserve now!

Morse Code in 5 classes – Saturdays, 9-10:30 am, begins Sept 21.
Tech in 5 classes – Thursdays, 6:30-9 pm, begins Sept 19.
Tech-in-a-Weekend – Sat-Sun, Sept 21-22 – tell your friends!
General-in-a-Weekend – Sat-Sun, Oct 19-20 – time to upgrade?
Amateur Extra in 9 classes – Wednesdays, 6-9 pm, begins Nov 25 – you always wanted to get AE.
Become a Volunteer Examiner (VE) – 6:30-8:30 pm, pick one date - 9/12, 10/4, 11/21, 12/5.

Conveniently located at 16 Tech Circle, Natick, near Rts. 9, 30, and 27.

www.NESciTech.org

Sunday, September 8							
Room	Federal	Colonial	Seminar	Cotillion	Directors	Board	Deck
9:00 9:50	Getting Started in Amateur Satellites		SKYWARN and VoIP Overview	FT8: Not a Prefix, a Powerful New Mode			
10:00 10:50		Magnetic Loop Antennas	Canadian Participation in the Golden Packet	Linux in your Hamshack		MARS Forum (open)	VE Session III
11:00 11:50		Two Ideas for Skyhooks	EDUCOMM—Education through Communication	Attributes of Great Ham Radio Clubs		MARS Membership Meeting (closed)	
12:00 12:50		Get the most from your Antenna Analyzer				MMRA Repeater Network (and prize drawing)	
13:00	Prize Drawing, Convention Wrap-up						
14:00				10 AM — Noon: At The Gazebo Live Music and Brunch			
15:00							

Both of these establishments will be accepting volunteer lunch vouchers on September 6 - 8, 2019.

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providing communications for routine and special events

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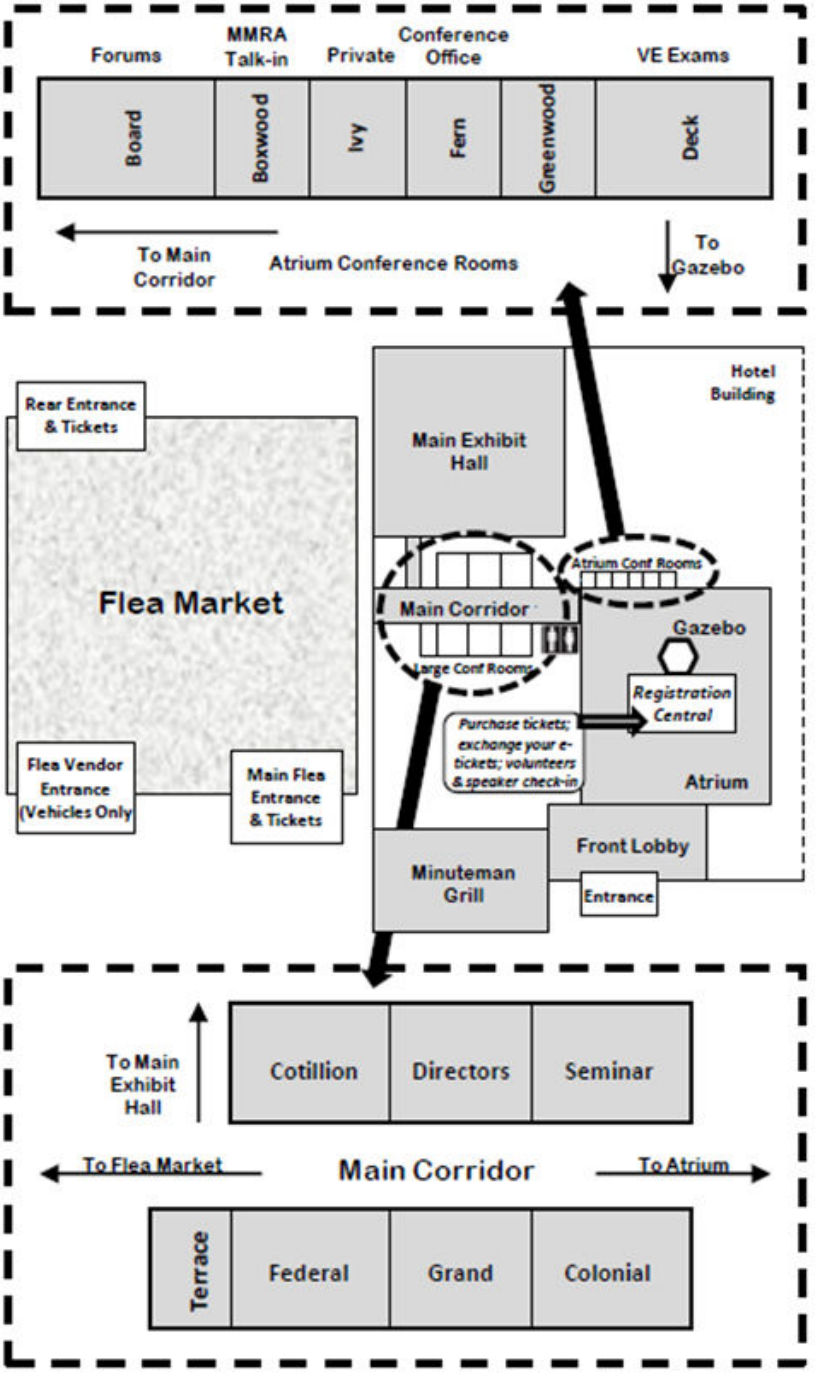
Site Maps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To Main Corridor
Atrium Conference Rooms
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Purchase tickets; exchange your e-tickets; volunteers & speaker check-in
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Main Flea Entrance & Tickets
Front Lobby
Minuteman Grill
Entrance
To Main Exhibit Hall
Cotillion
Directors
Seminar
To Flea Market
Main Corridor
To Atrium
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Mission: to encourage people to pursue interests in amateur radio, electronics, astronomy, and other STEM activities.

Tuesday club meetings 6:30-8 pm at NE SciTech, Natick
Hosting the Youth Forum at HamXposition in Boxboro
Two radio rooms; linked repeaters; Tuesday 8 pm NETS
Ham radio license classes – Technician, General, AE, VE
Radio contest training
Fox hunts; antenna building
Weather spotter training
Public telescope nights
ARRL Radio Field Day
Winter Field Day
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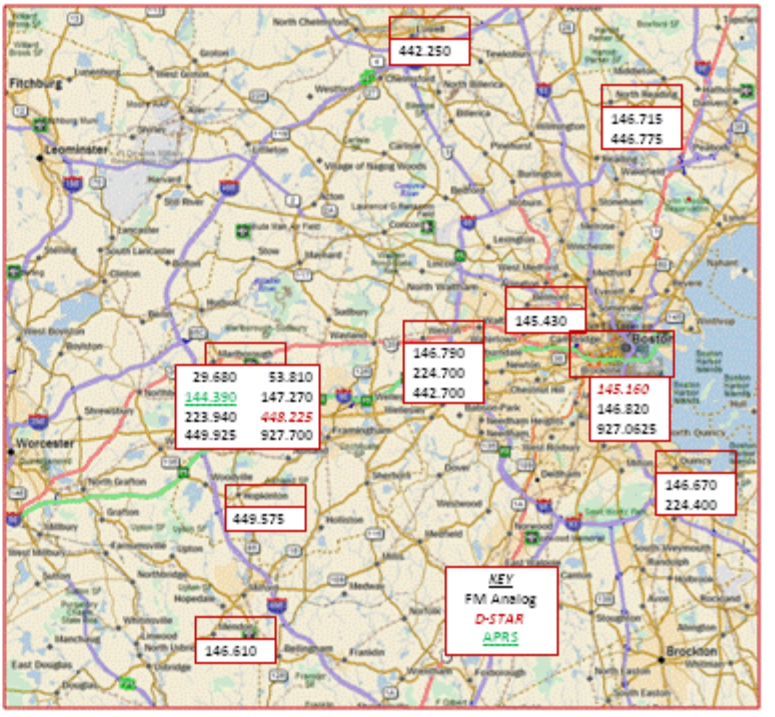

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Get On The Air and Build New Skills

The Nashua Area Radio Society can help you to earn your Amateur Radio License or Upgrade to General or Extra Class. Our classes feature many hands-on activities and our classes are completed in a weekend.

Our Tech Night program (available through our Internet Subscription) features professionally produced video training content to help you to get on the air and build your Amateur Radio skills. Available topics include:

- ***Fox Hunting: Radio Direction Finding***
- ***Building Your First Station and Getting On The Air***
- ***Popular Loggers – Ham Radio Deluxe and DXLab Suite***
- ***WSJT-X: FT8, WSPR, MSK144 and More***
- ***Software Defined Radios***
- ***Getting Started with Raspberry Pi Computers***
- ***Putting up a Tower***
- ***All About Field Day***

Nashua Area Radio Society
N1FD

and much more! Visit www.n1fd.org/hamradiofun for more information.

10:00—10:50 Colonial

High Speed Outdoor Communications — NEFR and Climb to the Clouds ~ Tim Carter, W3ATB

Tim, Chief of Communications for the New England Forest Rally, discusses how volunteering for two race car events will transform you into a true public-service operator. He shares how the events are the perfect training exercise for a real disaster in your community.

10:00—10:50 Seminar

Importance of SKYWARN Reporting and how it supported the Cape Cod Tornado Assessment ~ Mish Michaels

Former "The Weather Channel" television personality Mish Michaels will speak about the importance of SKYWARN reporting and Amateur Radio support and how it helped during the recent Cape Cod tornado event. Ms. Michaels has been working to raise awareness of Amateur Radio and SKYWARN to the public dating back to 2005 when she was a meteorologist for WBZ Channel 4.

11:00—12:50 Colonial

Traffic Handling Practices for Emergency Communications John Gotthardt, K1UAF

John will discuss best practices for handling formal (written) emergency message traffic. The guiding principle is the ABC's of Emergency Communications: Accuracy, Brevity, Clarity. A hands-on group exercise is included.

11:00—11:50 Seminar

Fundamentals of NVIS in EMCOMM ~ Frank O'Laughlin, WQ1O

A basic overview of high frequency Near Vertical Incidence Skywave (NVIS) and its usage in emergency communications.

12:00—12:50 Seminar

GoKits ~ David Weiss, N1DOU

Go Kit Basics.

13:00—13:50 Colonial

Emergency Communications in a Major Disaster: Puerto Rico and Others ~ Paul Silverzweig, N1PSX

Discussion of the role of emergency communications in major disasters, with a focus on amateur radio, including a discussion of events in Puerto Rico and in other major disasters.

13:00—17:30 Seminar

NBEMS & WINLINK ~ David Weiss, N1DOU

Narrow Band Emergency Messaging Software (NBEMS) Winlink Global Email

New England Amateur Radio

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New England Amateur Radio is a non-profit 501(c)3 organization to promote education and growth of amateur radio as a STEM activity, as a communications hobby, and as support for emergency preparedness and public service.

NEAR provides technical, educational, volunteer examiner, and license classes to clubs, groups, scouts, public service, and schools.

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14:00—17:00 Colonial

SKYWARN Training ~ Rob Macedo, KD1CY

SKYWARN is a volunteer program with from 350,000 to 400,000 trained severe weather spotters. These volunteers help keep their local communities safe by providing timely and accurate reports of severe weather to the National Weather Service. Learn the basics of thunderstorm development; fundamentals of storm structure; identifying potential severe weather features; information to report; how to report it; basic severe weather safety .

Cocktails 18:00 Dinner 19:00—22:00 Federal / Colonial

DXCC/Contest Dinner ~ Special Guest Adrian Ciuperca, KO8SCA

Join your fellow hams for a delicious DXCC/Contest dinner on the first night of the convention. Accompanying us will be Adrian Ciuperca, KO8SCA speaking about his experiences at the V84SAA International DXpedition to the Sultanate of Brunei.

SATURDAY, September 7

9:00—11:50 Federal

Ham Bootcamp ~ The Nashua Area Radio Society

Ham Bootcamp is a program for folks who want to get on the air using their Technician or General class license but aren't sure how to get started. Hands-on activities and topics include: What you can do with Amateur Radio; How to make a QSO on a repeater and check into a net; How to program your FM HT or mobile rig; How to improve your 2m/70cm antenna; Fun with Fox Hunting and Satellites; How to put together an HF station; How to operate digital; How to go about learning CW; How to upgrade to the next license level; What gear to get; How to get started in with kits - and more! NARS will also offer a guided tour of the vendor area and the opportunity to operate HF, satellite, and repeater GOTA stations at HamXposition.

9:00—9:50 Colonial

Yaesu System Fusion II and Updates ~ John Kruk, N9UPC

John Kruk, National Sales Manager for Yaesu, will discuss the System Fusion line and other Yaesu products

9:00—10:50 Seminar

New England Section Emergency Coordinator Forum Rob Macedo, KD1CY

New England Section Emergency Coordinators and other interested parties are invited to attend this forum to discuss the current status of their respective ARES programs—what's worked and what hasn't.

9:00—9:50 Cotillion

Grounding: Magic or Exact Science? ~ Steve Kercel, AA4AK

Effective grounding is the result of the art of engineering judgment. The key problem is that no matter how big the disaster for which you design, a bigger one can happen. Even

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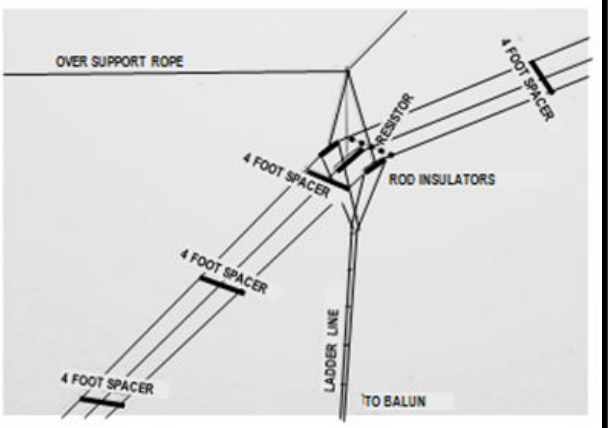

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by Ken Crawley WB4ENE at DipolesUSA.com

worse, there are four conflicting problems that are each solved by burying metal in the ground. Worst of all, there is no exact scientific description of either the problems or the solutions. What is a ham to do?

9:00—17:00 Directors

TECH-IN-A-DAY™ Review

Conducted by members of the Cape Ann Amateur Radio Association, Gloucester, Massachusetts. [Tech-in-a-Day™ is a trademark of Stanley Stone, W4HIX for FCC Amateur Radio Technician Class examination preparation.]

9:00—9:50 Board

Introduction to Fox Hunting ~ John Salmi, KB1MGI

John will discuss fox hunting techniques, antennas, and equipment for beginners and avid hunters alike.

10:00—10:50 Colonial

FlexRadio: SDR Technology that will Change how you Operate HF Forever ~ FlexRadio Representative

FlexRadio, the Software Defined Radio (SDR) pioneer and leader in the amateur radio market, has brought leading-edge capabilities, operating methods and equipment to the amateur world for over 15 years. This presentation will cover the benefits of SDRs for contesters, DXers, and rag chewers, including the differences between SDRs and more traditional HF radios (superheterodyne and homodyne) with an emphasis on the technology differences, and the unique operating benefits afforded by those differences and cost advantages. multiFLEX, a new capability included in SmartSDR v3.0, will be explored and the operating benefits for different types of operators will be discussed.

10:00—10:50 Cotillion

The Critical Link: RF Connectors ~ Jeremy Breef-Pilz, KB1REQ

Jeremy follows up to last year's presentation with a review of common (and slightly obscure) 50 Ohm RF connectors and their place in radio technology and the hobby. This will be a light technical discussion aimed to empower amateurs of all experience levels in choosing the right connector for their applications.

10:00—10:50 Board

RF Fingerprinting ~ John Salmi, KB1MGI

John will discuss how to record the "fingerprint" of an RF signal using your radio and a computer sound card.

10:00—12:50 Deck

VE Session I

11:00—11:50 Colonial

Elecraft: The Making of the K4 ~ Eric Swartz, WA6HHQ

Eric will reflect on the creation of Elecraft's top of the line transceiver, the K4, combining the latest in direct-sampling technology with classic controls and an upgradeable, modular architecture.

11:00—11:50 Colonial

An Introduction to Traffic Handling and being a Net Control Station ~ "Doc" Kinne, KE1ML

Doc will present a basic introduction to NTS phone traffic handling and how to do it. He'll also cover the basics of performing as a Net Control Station.

11:00—11:50 Seminar

Youth Forum ~ Bob Phinney, K5TEC

A panel of nine young and new hams will discuss all the ways to have fun with ham radio. Audience participation is encouraged -- help brainstorm new ways to attract youth to the hobby.

11:00—11:50 Board

The National Company ~ George Maier, W1LSB

George will offer a personal perspective on the National Company of Malden, MA. Although George was never employed by National, he was fortunate to have numerous friends who were employees. Join George as he discusses the famous National HRO receiver, and receivers that followed. He'll also examine life inside National, the war years, James Millen, the annual reunions, and the "bitter end."

12:00—12:50 Federal

The Longest DX: Whispers from the Beginning of Time Jack Gelfand, K2BMI

The cosmic microwave background radiation left over from the Big Bang permeates the

MERIDEN AMATEUR RADIO CLUB

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WWW.W1NRG.COM

Wallingford Amateur Radio Group
Emergency Communications

Emergency Communications for town of Wallingford .....Active weekly nets on 10, 6 and 2 Meters including Ten Ten Chapter net .... Active in: National Traffic System.... Skywarn.... Amateur Training Classes, VE sessions & Saturday morning club activities..... monthly newsletter.... Website & Forum.... Field Day.... Kids Day.... JOTA.... Contesting.... W1FD Memorial Student Scholarship

MARC is proud to sponsor the

Nutmeg Hamfest & 2019 ARRL Connecticut State Convention

Sunday October 13, Four Points Sheraton , Meriden Ct.

sky from all directions. Jack has built an apparatus with moderately priced components to measure this radiation at 10 GHz. He will describe the design and describe results.

12:00—12:50 Colonial

Estate Planning for the Radio Amateur ~ Adrian Zeffert, AB2IX

What happens when a family member calls the Club and says; "W1XYZZZ has passed away, what do we do with a room and basement full of radio stuff?" Adrian's presentation covers tangible assets accumulated by a typical ham. It provides advice on disposal of ham equipment, where the amateur may no longer be interested or able to do so. It also addresses the case where an amateur has accumulated a valuable collection. The presented material may be useful for the estate executor.

12:00—12:50 Seminar

National Traffic System Seminar ~ Betsey Doane, K1EIC

Are you interested in traffic handling? Come and meet operators who do this daily. Betsy invites all NTS operators to share their traffic handling experiences with friends and colleagues.

12:00—12:50 Cotillion

Cybersecurity for Ham Radio Operators ~ Jeff Greer, KA1NGP

Successful cybersecurity attacks are featured in the news daily. All ham radio operators need to start thinking about what this means for our hobby and the actions required going forward. Jeff's presentation will discuss risk management, NIST's Cybersecurity Framework, and best practices for preventing known problems.

The New England Amateur Radio Festival

NEAR-Fest

Deerfield NH

Friday, October 11th & Saturday October 12th 2019

DEERFIELD NH Fairgrounds.

www.near-fest.com **www.forum.near-fest.com**

GRAND PRIZE – ICOM 7300 – Drawing Saturday 2 PM

Winner does NOT need to be present to win.

[Spring 2020 dates: May 1st & 2nd]

Hamshack Hotline

A Free VOIP Amateur Radio Resource!

The Hamshack Hotline is a Free VOIP telcom service for the Ham Radio Community
Its purpose is to augment communication in hamshacks, EOCs, Clubs and club members.

With Public and Private Conference rooms, Nets can be attended Internationally with full fidelty.

We feature RF links to Allstar, C4FM, Fusion, D-Star, and DMR. all on one phone!

Check by our Booth here at Boxboro!
We plan to have scheduled guest interviews through the Hotline with some of our International and National Subscribers.

Hamshack Population:
*1,027 Domestic Extensions * 85 International Extensions*
847 Unique Callsigns.

When a disaster approaches your area, activation of your team is crucial. Mobilizing your team involves wide area notification, initial information distribution and Team response.
Hamshack Hotline features VM-Blast, an automated Emergency response system that will call each member, leave a voice-message in their mailbox and email them a notification...all activated with one call.
After a disaster or large scale event hits your area, chaos ensues. Your public safety networks become overburdened. Why not have a back channel that reduces the on the air traffic by using the Hamshack Hotline? With MESH-Radio integration, networks can be extended to serve the affected area.

CHECK US OUT AT

WWW.HAMSHACKHOTLINE.COM

12:00—12:50 Board

Heathkit: History and Restoration ~ Paul Topolski, W1SEX

Join Paul as he explores how Heathkit became a major player in the electronics and ham radio industries after World War II. Learn about the role of the GI Bill and amateur radio played in making Heathkit and so many hams and electronic technicians and engineers successful. See many restored Heathkit ham radio and test equipment products on display, including the Hero robot. Learn why Heathkit products are still used in teaching electronics today and why they are the easiest products to restore. There will even be a factory sealed kit which may, or may not be opened for all to see, depending on the vote of the audience.

13:00—13:50 Federal

AMSAT Status Report ~ Burns Fisher, WB1FJ

Burns will present an overview of current activities at AMSAT, including the status of AMSAT Engineering Projects and AMSAT's focus moving forward.

13:00—13:50 Colonial

ARRL Forum ~ Fred Hopengarten, K1VR

New England Division Director Fred Hopengarten will discuss current affairs at the League's board followed by a Q&A session. Bring your questions!

13:00—15:50 Seminar

New England QRP Forum ~ Carl Achin, WA1ZCQ

New England QRP symposium of talks:

- "Antennas, EZ-NEC, Takeoff Angles, and Propagation," Ed Hare, W1RFI
- "Where QRP kits came from and where we are...RIGHT NOW!" Dennis Marando, K1LGQ
- "QRP Kits, building, troubleshooting, operating," Rex Harper, W1REX

13:00—13:50 Cotillion

A Recent Local School ISS Crew Contact
Fred Kemmerer, AB1OC

The Nashua Area Radio Society worked with the Hudson (NH) Memorial School to plan for and execute an ISS crew contact this past year. Join Fred for an overview of this project including information about what goes into planning, preparation, and execution. The presentation will feature a video of the students talking with astronaut Serena Auñón-Chancellor abroad the ISS. The talk will highlight the STEM learning aspects of the project.

13:00—13:50 Board

Centennial of RCA ~ Ed Moxon, K1GGI

One hundred years ago American leadership in international radio communication was ensured when the Radio Corporation of America (RCA) was born. For most of the 20th century, Chatham, MA on Cape Cod was home to Chatham Radio / WCC, RCA's flagship marine radiotelegraph station. Ed's presentation goes behind the scenes and reveals the story of how government and industry brought RCA into being 100 years ago.

13:00—17:00 Deck

VE Session II

14:00—14:50 Federal

Apollo Communications: Technical Details and the Engineering Experience ~ George Whitehead, W1BOF

George will discuss the technical details of the Apollo Spacecraft Communication Subsystem ("how we communicated from the Moon") and a discussion of his personal experiences as a working-level engineer for the Apollo Spacecraft prime contractor, North American Aviation, Space and Information Systems Div., in the Communications Subsystem Group.

NOTE: *At the conclusion of the talk, there will be open discussion and Q&A in the Gazebo from 15:00 - 16:00.*

14:00—17:00 Colonial

YCCC Meeting ~ Dennis Egan, W1UE

After a short business meeting, we will have the following talks:

- Randy Thompson, K5ZD, speaking on contesting
- Jim Idelson, K1IR, speaking on Tower Safety
- Doug Grant, K1DG, "Getting Started in Contesting"

14:00—14:50 Cotillion

The Journey to 2019 Club of the Year ~ Fred Kemmerer, AB1OC

The Nashua Area Radio Society was recently honored as the Dayton Hamvention (R) 2019 Club of the Year for its work in bringing new people into the Amateur Radio service and providing mentoring and STEM learning opportunities for young and old. Fred will discuss some of the programs that NARS has created to help folks enter the Amateur Radio service, build their skills, and have fun with Amateur Radio.

14:00—14:50 Board

Introduction to Antenna Modeling ~ Greg Algieri, WA1JXR

Greg will introduce antenna modeling using the software program EZNEC. He'll show you how to use the software to model your existing or future antennas, and analyze antenna performance to compare different antennas, and how modifications or location of an antenna can effect performance.

15:00—15:50 Federal

A Low Power, 144 MHz., Earth-Moon-Earth Amateur Radio Station ~ William E. Keicher, KC1HTT

Amateur Earth-Moon-Earth (EME) communications is one of the most challenging projects that an amateur radio operator can attempt. William will discuss what an amateur radio enthusiast needs to successfully model, build, and operate a small EME station. His low power, 144 MHz, Earth-Moon-Earth amateur radio station is described in detail. Included are the physics of EME communications, site constraints, communication system analysis, design, and hardware implementation. In addition, the JT65B communication mode, waveforms, and signal processing are briefly described. Finally, EME operations are reported including QSO planning, safety considerations, EME support web sites, with examples of three successful QSOs and a signal-to-noise analysis of the QSOs based on the bistatic radar equation. Plans for the next generation KC1HTT EME radio station improvements are also discussed.

15:00—15:50 Cotillion

New England Spectrum Management Council Annual Meeting Bob DeMattia, K1IW

New England Spectrum Management is the VHF-UHF frequency coordinator for Maine, Massachusetts, New Hampshire, and Rhode Island. Members and non-members are welcome to attend this annual meeting.

15:00—17:00 Board

YL Meet and Learn ~ Anne Manna, WB1ARU

Anne invites all women to come and meet other women who are interested in our shared hobby. There will be time to visit. All women and girls are welcome, licensed or not. Enjoy a chance to relax and learn what other YLs enjoy about ham radio!

16:00—17:00 Federal

Weather Kites and Amateur Radio ~ Don McCasland

Blue Hill Meteorological Observatory's Don McCasland will show how kites played a huge role in weather forecasting before satellites and weather balloons became common.

16:00—17:00 Seminar

AM on Steroids ~ Tim Smith, WA1HLR

Tim ("TimTron") Smith, will discuss A.M. amateur radio and related HF topics. This year he takes on "A.M. on Steroids, The 500 KW WBCQ Superstation."

16:00—17:00 Cotillion

Enigma, OSS, and Spy Radios ~ Michael Crestohl, W1RC, Tom Perera, W1TP, George Rancourt, K1ANX

Join George, Tom, and "Mister Mike" as they present a brief overview of the German ENIGMA crypto machine, as well as a discussion of OSS and some of the covert "spy radio" equipment used during the Second World War. Actual equipment from their collections will be demonstrated and on display.

Cocktails 18:00 Dinner 19:00—22:00 Federal / Colonial

Convention Banquet: Keynote Speaker ~ Dan Barstow, KA1ARD

Dan is Senior Education Manager for the International Space Station National Lab.

19:00—23:00 Seminar

NE QRP Meet & Greet, Vendors Night & Build-A-Thon

NEQRP sponsors a Build-a-thon on Saturday evening from 7 PM until the last builder is finished. One and all are welcome to sign up and join in our scheduled activities.

21:30—23:00 Colonial

Movie Night ~ *Alien Planet*

21:30—23:00 Cotillion

Informal Music Jam Session ~ Eliot Mayer, W1MJ

Get ready to rock out at Boxboro! Saturday Night Jam Session, hosted by Eliot Mayer, W1MJ, formerly of The Chameleons. The jam session may go into some long blues improvisations, spontaneous rock, blues, or folkie directions, but we also offer chords and lyrics for fun but not-too-difficult songs for those that might want to practice playing or singing.

21:30—23:00 Gazebo

Open Mic Ham Radio Storytelling ~ Phil Temples, K9HI, MC

Have you had an amusing encounter with another ham, on or off the air? An antenna experiment that resulted in more sparks than signal? Or perhaps ham radio impacted your life in a way you couldn't have imagined? Now's the time to share your story!

SUNDAY, September 8

09:00—12:00 Federal

Getting Started in Amateur Satellites ~ Bob Hayes, KB1SWZ

Bob and others will help beginners to understand, plan, and make a QSO on the FM single channel amateur satellites. They'll provide an overview of the variety of currently available and soon to be launched amateur satellites describing their capabilities (FM, SSB/CW, and telemetry). They will also conduct a satellite demo during the forum where attendees will be able to observe a satellite contact outside using a HT and hand-held antenna. A Q&A will follow the demonstration.

09:00—09:50 Seminar

SKYWARN and VoIP Overview ~ Rob Macedo, KD1CY

Rob will give an overview of the SKYWARN program including a severe weather recap video. He will also discuss the Voice-Over-IP Hurricane Net and its role with WX4NHC, the Amateur Radio station at the National Hurricane Center.

09:00—09:50 Cotillion

FT8: Not a Prefix, a Powerful New Mode ~ Larry Banks, W1DYJ

FT8 showed up on the ham horizon in August 2017, and has since become the "hot new mode." Larry will discuss its history and how to set up your station. He will also introduce a supporting application called JTAlert and highlight three reporting web sites. He will end with his personal experience using FT8 to chase DX with low power and homebrew antennas. This talk is aimed at hams that have not used or are just starting out to use FT8.

10:00—10:50 Colonial

Magnetic Loop Antennas ~ Ted Robinson, K1QAR

Magnetic loop antennas offer a solution to three major HF antenna problems: height, space and noise. One-tenth the size and height, and 10 db quieter than a dipole, a transmitting loop still equals a dipole's performance, presumably due to its magnetic near field having reduced interaction with the ground and surroundings. A 3-foot loop will illustrate to attendees the level of engineering required to handle 500 watts, including a stepper controller necessary for tuning the loop's tiny bandwidth.

10:00—10:50 Seminar

Canadian Participation in the Golden Packet
Gerald Lemay, VA2GLU

Gerald will present some of the backstory behind the Canadian participation in the "Golden Packet." Each year during a Saturday in July, dedicated radio amateurs climb 15 mountain peaks along the Appalachian Trail (AT) from Georgia to Maine. Upon reaching the summit, these hams set up APRS stations to demonstrate the feasibility of a communication backbone by transmitting messages from one end of the AT to the other. But the Appalachian mountain range doesn't stop at Mount Katahdin in Maine. Instead, it continues into New Brunswick, Canada, and into Quebec Province, Canada. For the first time in its eleven-year history, Canadians participated in this event.

10:00—10:50 Cotillion

Linux in your Hamshack ~ Andy Stewart, KB1OIQ

Andy will talk about the "Andy's Ham Radio Linux" software collection. He'll review the available ham radio software for Linux, and cover a wide range of amateur radio activities including logging, satellites, and digital modes.

10:00—10:50 Board

MARS Forum (open) ~ Robert Mims, WA1OEZ

What is the Military Auxiliary Radio Service? Come to the forum and learn about Army and Air Force MARS.

10:00—13:00 Deck

VE Session III

11:00—11:50 Colonial

Two Ideas for Skyhooks ~ Larry Banks, W1DYJ

After purchasing a second home on the coast of Maine, Larry had to build a new ham station from scratch. This talk describes the concept, design, and implementation of a rotatable mast for a 6m Yagi, and a 34" mast for HF dipoles. This is NOT a "how to" talk. It is an "ideas" talk and has some practical ideas for construction that you may be able to use yourself.

11:00—11:50 Seminar

Educomm — Education through Communications
Joe Fairclough, WB2JKJ

Joe will describe how to bring ham radio to the classroom as a teaching tool and involve students in learning via the magic of Amateur Radio.

11:00—11:50 Cotillion

Attributes of Great Ham Radio Clubs ~ Andy Stewart, KB1OIQ

Eastern Massachusetts Affiliated Club Coordinator Andy Stewart will discuss the features of great ham radio clubs and the benefits of ARRL affiliation.

11:00—11:50 Board

MARS Membership Meeting (closed) ~ Robert Mims, WA1OEZ

A closed meeting for MARS members to discuss MARS.

12:00—12:50 Colonial

Get the Most from your Antenna Analyzer ~ Jacques Audet, VE2AZX

In this presentation Jacques will review impedance concepts followed by a description of scalar and vector analyzers. He will also cover what you can do with a scalar analyzer; in particular, measuring the impedance of coax cables, ferrite impedance and measuring the Q factor. With a vector analyzer that measures the sign of the reactance, Jacques will show how to measure impedances at the cable end, identify ferrite core types and design matching networks for your antenna. It is also possible to measure return loss and impedance magnitude vs distance in TDR mode and check quartz crystal parameters. Jacques will also cover how the vector analyzer may be used to check antenna impedance to verify if your tuner is operating within its SWR limits.

12:00—12:50 Board

Minuteman Repeater Association ~ Dave Hornbaker, N1DCH

Dave will lead a presentation on the MMRA repeater network followed by a raffle drawing.

13:00—15:00 Federal

Prize Drawing & Convention Wrap-up

Thank you for attending

Northeast HamXposition 2019 @Boxboro!

Northeast HamXposition *Through the Years*

Prior to becoming an official convention, FEMARA held a picnic and hamfest. In 1958 it was held at Norumbega Park in Newton and in 1959 at the New Ocean House hotel in Swampscott. In 1960, the hamfest became the official ARRL New England Convention.

The 1969 event was interesting: Two weeks before the convention, the New Ocean House hotel burned to the ground. The convention staff went into overdrive and managed to move to the Park Plaza hotel in Boston, retaining the original convention dates.

#	Year	Dates	Location	Admission
1	1960	May 1	New Ocean House, Swampscott	$3 adv / $4
2	1961	Apr 8,9		
3	1962	Apr 7,8		
4	1963	Apr 27,28		
5	1964	May 9,10		
6	1965	Apr 24,25		
7	1966	Apr 22,23,24	Prudential Center, Boston *ARRL National Convention*	
8	1967	Apr 22,23	New Ocean House, Swampscott	
9	1968	Jun 1,2,3		
10	1969	May 24,25	Park Plaza Hotel, Boston	$3.50/$4.50
11	1970	Sep 25,26,27	Statler Hilton, Boston *ARRL National Convention*	$3 / $4
12	1973	Sep 29,30	Dunphy's Resort, Hyannis	
13	1976	Sep 10,11,12	Statler Hilton, Boston	
14	1978	Oct 14,15	Sheraton, Boxborough	$4 / $5
15	1980	Oct 3,5		
16	1982	Oct 2,3		
17	1984	Sep 29,30		$6
18	1986	Oct 18,19		
19	1988	Oct 1,2		$6 / $7
20	1990	Oct 13,14		$7 / $8
21	1992	Oct 3,4	Host Hotel. Boxborough	$7
22	1994	Oct 1,2		$7 / $8
23	1996	Oct 4,5,6	Boxboro Woods Holiday Hotel	
24	1998	Aug 29,30	Holiday Inn, Boxboro	$6 / $8
25	2000	Aug 25,26,27		
26	2002	Aug 23,24,25		$8 / $10
27	2004	Aug 13,14,15		$10 / $12
28	2006	Aug 25,26,27		$15
29	2008	Aug 22,23,24		
30	2010	Aug 27,28,29		
31	2012	Aug 24,25,26		
32	2015	Aug 21,22,23		
33	2016	Sep 9,10,11		
34	2017	Sep 8, 9, 10	Boxboro Regency Hotel and Conference Center	
35	2018	Sep 7, 8, 9		
36	2019	Sep 6, 7, 8	*** YOU ARE HERE ***	$18

FEMARA Incorporated

FEMARA Inc. is a Massachusetts non-profit corporation that sponsors and runs the ARRL New England Division Convention. The group, which has been in existence for over 36 years, began as a consortium of area radio clubs. FEMARA is qualified under IRS 501(c)(3). Donations to FEMARA are deductible as allowed by IRS regulations.

Our goals are twofold; to offer the richest and most diverse ARRL Convention in the country, and to support the ARRL Foundation's scholarship program.

73,
Mike Raisbeck, K1TWF
President, FEMARA, Inc.

FEMARA Officers

President . . .	Mike Raisbeck - K1TWF
Vice President . . .	Bob DeMattia - K1IW
Treasurer . . .	Joyce DeMattia - K1IWW
Clerk	Ken Caruso - WO1N

Convention Committee

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Vice-Chair, Operations .	Bob DeMattia - K1IW
Speakers & Forums . .	Phil Temples - K9HI
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Contest Dinner & Special Event Station	Dennis Egan - W1UE
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